

Application Number 09/755,714
Responsive to Office Action mailed December 27, 2005

REMARKS

This amendment is responsive to the Office Action dated December 27, 2005. Applicant has amended claims 1, 10, 15, 18, 22–24, 27, 31, and 33, and added new claims 39–40. Claims 1, 4–16, 18–19, 22–27 and 31–33, and 39–40 are pending.

Claim Rejection Under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 1, 4–16, 18–19, 22–27 and 33 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended claims 1, 10, 15, 18, 23, 27, and 33 by way of a non-narrowing amendment for purposes of clarification. Applicant respectfully traverses the rejection to the extent such rejection may be considered applicable to the claims as amended. Applicant submits that the amended claims are clear and distinct in view of the specification.

In the Office Action, the Examiner stated that it is unclear in the claims how the location of the item of interest is determined and displayed if it is with respect to a representation of an interrogation area and not relative to the current location of the interrogator. Claim 1, as amended, clarifies that the RFID interrogation source interrogates a plurality of items within an interrogation area, wherein at least one of the items is an item of interest. That interrogation area, for example, may be an entire shelf or set of shelves having a plurality of items that are scanned by the RFID reader. After scanning an entire shelf, for example, the RFID reader can identify where a given material (i.e., the item of interest) is located relative to the other items and whether the item of interest is inappropriately located on that shelf, i.e., not at the expected location relative to the other items that were scanned during the interrogation.¹ As another example, the RFID reader includes, or can obtain from a database, information sufficient to determine how many of the intermediate items are expected to be present between the current item being scanned and where an item of interest is expected to be located within the overall interrogation area, e.g., the entire shelf, and thereby even account for missing items.² The specification further states:

¹ Specification, page 4, ll. 5–1.

² Specification, page 5, ll. 15–18.

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The display portion of the user interface for the RFID reader can include, for operations related to scanning the materials in a given area, a first (preferably graphical) component that illustrates the area or its boundaries, and a second (preferably graphical) component that illustrates a location within that area, such as where within that area a specified material is located, or should be located. . . . For example, if the scanned area is a single book shelf, the first component of the user interface may be a longitudinal bar graphic such as that shown in Figure 4 at 110, and the second component may be a highlighted portion of the bar as shown at 112.³

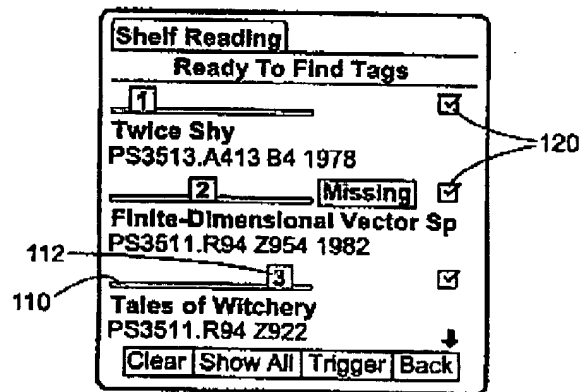


Fig. 4

Figure 4 shows a representation of an overall interrogation area in the form of a bar graphic 110 that represents a book shelf. Figure 4 further illustrates a location of an item of interest 112 relative to the interrogation area, in the form of a highlighted portion of the bar.

Thus, in light of the specification, one of ordinary skill in the art would reasonably understand that the interrogation source of the RFID reader determines the location of the items of interest relative to the interrogation area by scanning the materials within the interrogation area, as now recited by the claims as amended. For example, a user may walk along a library shelf with the RFID reader while the RFID reader interrogates each item that is passed. The RFID reader may show, based on the interrogation, that a particular item of interest is located 100 books to the left of the end of the shelf. For this reason, as mentioned in Applicant's previous response, the location of the items of interest is not indicated relative to the location of the interrogator; rather, the location of the item of interest is indicated relative to a graphical representation of the overall interrogation area.

³ Specification, at page 4, ll. 19-30.

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Applicant is hopeful that the above discussion has clarified the Examiner's understanding regarding the meaning of Applicant's claims. The Examiner is invited to contact the undersigned attorney should further discussion be considered helpful. Applicant submits that claims 1, 4-16, 18-19, 22-27 and 33, as amended, particularly point out and distinctly claim the subject matter, as required by 35 U.S.C. 112, second paragraph.

Rejection for Obviousness-type Double Patenting:

The Examiner rejected claims 1, 4, 6-9, 10-12, 15, 18, 22, 23, 24-25, 27 and 31 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5, 7, 12, 16-18, 21 and 24-26 of U.S. Patent No. 6,600,418 to Francis et al. Applicant respectfully traverses this rejection.

Nevertheless, Applicant submits a Terminal Disclaimer with this Amendment. This disclaimer obviates the double patenting rejection and places claims 1, 4, 6-9, 10-12, 15, 18, 22, 23, 24-25, 27 and 31 in a condition for allowance. The disclaimer is made to expedite issuance and is not intended as an admission that any claim of the present application is the same or an obvious variant of those of U.S. Patent 6,600,418 or an admission as to the relevance of Francis et al. to the pending claims.

Claim Rejection Under 35 U.S.C. § 103

Claim 23

In the Office Action, the Examiner rejected claim 23 under 35 U.S.C. 103(a) as being unpatentable over Ruppert et al. (US 5,640,002) in view of Zoepfl (US 3,893,099). Applicant respectfully traverses the rejection. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

For example, the applied references fail to disclose or suggest an RFID reader having a user interface in which an audio signal is produced repeatedly at a desired interval to pace a user as to the speed at which RFID tags should be interrogated, as recited in claim 23. The Examiner correctly recognized that Ruppert et al. does not disclose such an audio signal. The Examiner

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asserted that it would have been obvious to modify the RFID reader of Ruppert et al. to include the athletic timer of Zoepfl that provides an audio tone at predetermined intervals of time.

First, even if the Ruppert system could be modified to include some form of an athletic timer, there is no suggestion in either of the references to pace the scanning of individual tags. At best the modified Ruppert system could time a shopper's overall trip to the store, but the Ruppert system is not dealing with uniformly distributed items where each item must be scanned. Instead, the Ruppert system is used only to scan items that a shopper wishes to purchase, and those items may be located randomly throughout the store. Consequently, it makes no sense to attempt to "pace" a shopper relative to scanning RFID tags as the items in the store are certainly not uniformly arranged such that pacing would be beneficial. The Applicant respectfully disagrees with this conclusion of obviousness.

Second, contrary to the Examiner's assertion, one of ordinary skill in the art would not be motivated to modify Ruppert et al. in view of Zoepfl. Zoepfl describes the use of an athletic timer for use in athletic events and training, and makes no mention of the adaptation of such a feature for an RFID system. Neither Ruppert et al. nor Zoepfl conveys any teaching that would have suggested modification of the RFID reader of Ruppert et al. to include the athletic timer of Zoepfl. On this point, the Examiner stated, "Clearly, these features are desirable in the system of Ruppert et al. where a shopper may be competing against time or is in a hurry to complete his [chores]." The Examiner's speculation that a shopper may "be competing against time" and sole reliance on this speculation as basis for the 103 rejection is not based on substantial evidence in the record, as is required.

Claims 23 and 31-33

In the Office Action, the Examiner rejected claims 23 and 31-33 under 35 U.S.C. 103(a) as being unpatentable over Cannon, Jr. et al. (US 5,689,238) in view of Zoepfl. Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

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In general, Cannon Jr. et al. describes an object locator system in which a stored object has an attached electronic tag identifiable by a unique response code. To locate the stored object, the response code is entered into an interrogator, which sends a signal that causes the tag to emit a sound, allowing a user to locate the stored object by following the sound. Alternatively, the interrogator displays signal strength to indicate the tag's proximity to the interrogator.

Independent claim 23 requires an RFID reader having a user interface in which an audio signal is produced repeatedly at a desired interval to pace a user as to the speed at which RFID tags should be interrogated, as recited in claim 23. With respect to claim 23, the Examiner recognized that Cannon does not teach or suggest these features. Nevertheless, the Examiner asserted it would be obvious to modify the Cannon system to include the athletic timer of Zoepfl to produce an audio signal repeatedly at a desired interval to pace a user as to the speed at which RFID tags should be interrogated, as recited in claim 23.

However, Cannon teaches a technique in which the RFID tag itself produces an audible sound to aid finding the item to which the tag is affixed. Is the Examiner suggesting that it would be obvious to one of ordinary skill to modify the Cannon RFID tag to include an athletic timer? Moreover, even if one of ordinary skill could achieve such modifications to the RFID tag, how could an RFID tag that emits a sound upon being interrogated by an appropriate response code that further has an athletic timer be used to pace a user of an RFID reader in the interrogation of a plurality of RFID tags?

Moreover, Cannon is directed to locating a particular object, and any incorporation of a timer would at best serve to time the user's efforts in finding that particular object. There is no suggestion in Cannon or Zoepfl, either separately or in combination, to produce an audio signal repeatedly at a desired interval to pace a user as to the speed at which RFID tags *should be interrogated*.

With reference to amended independent claim 31, the applied references lack any teaching that would have suggested an RFID reader including a processor that determines a number of intermediate items located between an interrogated item and an item or location of interest, and a user interface that displays an indication in a measurable unit of how far away the item or location of interest is from the interrogated item based on the determined number of intermediate items.

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In the Office Action, the Examiner acknowledged that Cannon, Jr. et al. does not disclose a user interface that displays such an indication in a measurable unit. However, the Examiner asserted that "it would have been obvious to one of ordinary skill to recognize that signal strength is a measurable unit for indicating distance."⁴ With respect to dependent claims 32 and 33, the Examiner stated that it would have been obvious to correlate a number of items to the distance calculated with the signal strength wherein the items have equal thickness and that each item would have an associated tag to account for missing items.

Cannon, Jr. et al. makes no mention of determining a number of intermediate items located between an interrogated item and an item or location of interest, let alone displaying an indication in a measurable unit of how far away the item of interest is from the interrogated item based on the determined number of intermediate items, as required by claim 31, as amended. The Examiner offers no evidence that it would be obvious to one of ordinary skill to modify the Cannon interrogator *to display* a measurable unit of how far away from the item of interest the interrogated item is located. Again, Cannon relies on the technique that the Cannon RFID tags produce an audible signal. The fact that a user may mentally estimate the distance to the tag, as hypothesized by the Examiner, is irrelevant and fails to establish a prima facie case of obviousness of a reader having a user interface that displays an indication in a measurable unit of how far away the item or location of interest is from the interrogated item. None of the references, either singularly or in combination, fill in this gap in the Examiner's reasoning as to how an audible signal produced by an RFID tag could be rendered as a measurable unit on a display of an RFID reader interrogator.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 23 and 31-33 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

⁴ Office Action dated December 27, 2005, at page 8.

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New Claims:

Applicant has added claims 39 and 40 to the pending application. The applied references fail to disclose or suggest the inventions defined by Applicant's new claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions.

As one example, the references fail to disclose or suggest an RFID reader including a processor to reference a database to determine how many of the intermediate items are expected to be present, wherein the database is located within the RFID reader, as recited by claim 39 and claim 33, upon which claim 39 depends. Support for the new claims may be found, for example, at the specification on page 3, lines 15-26, and page 5, lines 13-18. No new matter has been added by the new claims.

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

March 27, 2006

SHUMAKER & SIEFFERT, P.A.

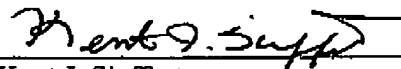
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